

General Chemistry and Laboratory I

Chemistry 121

Section: D100

Term: 2010 Summer

Instructor: Lecture Instructor: Dr. L. Hanlan

Lecture Instructor: Dr. G. Mund (Surrey Campus)

Laboratory Instructor: Dr. R. Goyan

Discussion Topics: Atomic structure and chemical bonding; gases, liquids, solids, and solutions; thermochemistry; chemical reactions; periodic properties; stoichiometry. 3 lecture hours/week; 4 laboratory hours/2 weeks; one hour tutorials.

Lecture Topics:

Introduction.

Atoms, Molecules and Ions. Ch. 2.

Stoichiometry. Ch. 3.

Chemical Reactions. Ch. 4.

Gases. Ch. 5.

MIDTERM

Thermochemistry. Ch. 9.

Atomic Theory. Ch. 12.

Bonding Concepts.Ch. 13.

MIDTERM

Covalent Bonding Orbitals.Ch. 14.

Liquids and Solids. Ch. 16.

Solutions. Ch. 17.

Laboratory Experiments:

Exp. 1. Introduction (first week of classes all students must attend)

Exp. 2. Chemical Reactions and Equations.

Exp. 3. Sequence of Copper Reactions.

Exp. 4. Molar Mass of a Gas.

Exp. 5. Synthesis and Analysis of a Complex Salt of Iron.

Exp. 6. Spectrophotometric Analysis of Nickel(II) Ions in Solution.

Exp. 7. Colligative Properties

General Chemistry and Laboratory I

Grading: (15% each) Two Midterm Exams; 10% LON CAPA Problem Sets; 20% Laboratory; 40% Final Exam

Required Texts: Steven S. Zumdahl, "Chemical Principles". 6th Edition. 2009. Houghton Mifflin Co.

A Lab Manual will be distributed at the first laboratory session.

Recommended Texts: None

Materials/Supplies: IClicker (Burnaby Campus Only), Scientific calculator: Aurex SC6145 Scientific Calculator., safety glasses, millimeter graph paper.

Prerequisite/Corequisite: Prerequisite: B.C. High School Chemistry 12 or CHEM 111 (or 101 & 106).

Corequisite: MATH 151(or 154) and PHYS 120 (or 101) are recommended.

Students may not count both CHEM 120 and 121 for credit.

Students may not count both CHEM 121 and (CHEM 102 and 115) for credit.

Notes: Students must pass both the lecture and laboratory components individually to obtain a passing grade in Chem 121.

CHEM 121 Laboratory sessions begin in the first week of classes.

This outline is derived from a course outline repository database that was maintained by SFU Student Services and the University's IT Services Department. The database was retired in 2014 and the data migrated to SFU Archives in 2015.